

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Chang-Seob KIM et al.

Application No. 10/748,197

Group Art Unit: 1745

Confirmation No. 6732

Filed: December 31, 2003

Examiner: Maria J. Laios

For: JELLY-ROLL TYPE BATTERY UNIT AND WINDING METHOD THEREOF AND
LITHIUM SECONDARY BATTERY COMPRISING THE SAME

REPLY BRIEF UNDER 37 C.F.R § 41.41

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Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply Brief is in response to the Examiner's Answer mailed June 11, 2008, the due date for the Reply Brief being August 11, 2008. This response addresses only those points raised in the Examiner's Answer that Applicants believe would benefit from further explanation or argument. This Reply Brief is intended to supplement rather than replace the original arguments presented in Applicants' Appeal Brief filed on March 31, 2008. Any claims or issues not specifically addressed below rely upon these original arguments.

I. Real Party in Interest

The real party of interest remains as identified in the Appeal Brief pursuant to 37 C.F.R. §41.37(c)(1)(i).

II. Related Appeals and Interferences

Although the real party in interest has other appeals and interferences, none of the other pending appeals and interferences is believed to directly affect or be directly affected by, or have any bearing upon the decision of the Board of Patent Appeals and Interferences in this appeal.

III. Status of Claims

The status of the claims remains as identified in the Appeal Brief pursuant to 37 C.F.R. §41.37(c)(1)(iii).

IV. Status of Amendments

The status of the amendments remains as identified in the Appeal Brief pursuant to 37 C.F.R. §41.37(c)(1)(iv), as the Examiner entered the Amendment of March 27, 2008, as indicated in the Statement of Substance filed April 11, 2008.

V. Summary of the claimed subject matter

The Amendment under 37 CFR 41.22(b)(1), filed March 27, 2008, was entered to cancel claims 16-19 and make claim 20 independent. The summary of the claimed subject matter remains as identified in the Appeal Brief pursuant to 37 C.F.R. §41.37(c)(1)(v).

VI. Grounds of rejection

The grounds of rejection remain as identified in the Appeal Brief pursuant to 37 C.F.R. §41.37(c)(1)(vi).

VII. Arguments

1) Claims 1-4, 7, 8, 10, 13-15, 20, and 23-26 are patentably distinguishable over Sugita et al. (U.S. Patent No. 6,432,578).

The following arguments supplement rather than replace the original arguments presented in Applicants' Appeal Brief filed on March 31, 2008. Any claims or issues not specifically addressed below rely upon these original arguments.

By way of review, in relevant parts claims 1, 14, and 20 recite that an electrode tab formed by folding a cut portion of an electrode current collector toward an upper edge thereof, the cut portion being at least partially defined by a cut that begins at a lower edge of the electrode current collector, and extends along more than half of a width of the electrode current collector. As is admitted by the Examiner, at page 4, lines 11-12, of the Office Action mailed on November 01, 2007, Sugita et al. does not teach or suggest that the cut portion begins at the lower edge of the electrode current collector, and extends along more than half of a width thereof.

In order to overcome this deficit, at page 7 of the Examiner's Response, the Examiner argues that, in order to ease unspecified "manufacturing difficulties", one skilled in the art would have been motivated to modify the electrode tab Sugita et al., such that the cut portion begins at the lower edge of the electrode current collector and extends along more than half of a width thereof. However, since none of the references cited by the Examiner teach or disclose cite any manufacturing difficulties, the Examiner argues that the "manufacturing difficulties" result from the electrode tab being formed by the lasering of three different segments of the current collector. The Examiner then argues that, if the incisions were started at the lower edge of the current collector, only one or two cuts would be required, thereby making the electrode tab easier to manufacture, by requiring fewer cuts.

However, the Examiner's arguments are again merely the Examiner's own conclusory statements, made in hindsight, in view of the teachings of the present application. In particular, the Examiner fails to cite any references, or provide any objective evidence, that disclose that there were known difficulties in the manufacturing process of Sugita et al., as well as what these difficulties were. In addition, if one skilled in the art were to modify the device of Sugita et al., such that "the cut portion is at least partially defined by cut that begins at a lower edge of the first or second electrode current collector and extends along more than half of a width thereof," the

cut portion would extend all the way to the bottom edge of the battery of Sugita et al. Therefore, the cut or cuts would have to be far longer than the cuts shown in Fig. 13(a), to which the Examiner refers.

Therefore, if one skilled in the art were motivated to ease manufacturing, one skilled in the art would not be motivated to make such cuts, because longer cuts may actually require a longer processing time. This is especially true when using a laser, as disclosed in Sugita et al., because the laser would necessarily have to trace a longer path, and would also, therefore, require more energy. As a longer processing time and a greater energy use actually reduce manufacturing efficiency, the Examiner's ease of manufacturing arguments fail to provide a sufficient motivation, or other evidence, as to why one skilled in the art would make the necessary modifications to Sugita et al. In fact, as recited in col. 4, lines 27-55, the only problems recited in Sugita et al. are those associated with the disconnection of the electrode tab, when the battery is dropped. Therefore, the Examiner has not provided evidence that one skilled in the art would have modified Sugita et al., in order to ease manufacturing, and the rejection of claims 1-4, 7, 14, 15, 20, and 23-26, under 35 U.S.C. §103, over Sugita et al., should be reversed.

At page 9 of the Examiner's Response, the Examiner further argues that since Sugita et al. teaches the concept of cutting and folding an electrode plate to form an electrode tab, one skilled in the art would have had the knowledge to shift the electrode tab incision from the center of the electrode plate to the edge of the electrode plate.

The Examiner seems to be confusing the technical abilities of one skilled in the art, with the knowledge of one skilled in the art to perform a particular modification. While one skilled in the art may have had the ability to shift the electrode tab incision, Applicants respectfully disagree that the Examiner has presented any evidence that one skilled in the art would have known where to make such a shift, as this knowledge is clearly derived from the present

application. Again, this is evidenced by the fact that Sugita et al. discloses a plentitude of variations on the formation of the electrode tab, but fails to disclose the electrode tab as recited in the rejected independent claims.

The Examiner has not cited any manufacturing difficulties associated with manufacturing an electrode tab of Sugita et al. In fact, nowhere in Sugita et al. are manufacturing difficulties associated with incising the electrode tab discussed. Without establishing any manufacturing difficulties or factual bases therefore, there can be no evidence of a motivation to overcome such difficulties, and the Examiner's argument must be considered a conclusory statement unsupported by the record. Therefore, the Examiner has not provided evidence as to why one skilled in the art would have modified Sugita et al., in order to ease manufacturing, and the rejection of claims 1–4, 7, 14, 15, 20, and 23 – 26, under 35 U.S.C. §103, over Sugita et al., should be reversed.

Therefore, in view of the arguments presented herein and in the Appeal Brief filed on March 31, 2008, the rejection of independent claims 1, 14, and 20, and dependent claims 2 – 8 and 18 under 35 U.S.C. §103(a) over Sugita et al. in view of Narukawa et al. should be reversed.

2) Claims 5, 6, 12, 21, 22, 27, and 28 are patentably distinguishable over Sugita et al. (U.S. Patent No. 6,432,578) in view of Narukawa et al (U.S. Patent No. 5,508,122).

At page 10 of the Examiner's Response, the Examiner admits that Sugita et al. teaches away from using an adhesive tape, as recited in present claims 5, 6, 12, 21, 22, 27, and 28. However, the Examiner appears to assert that it would have been obvious to combine the electrode tapes allegedly taught in Narukawa et al., with the art teachings of Sugita et al., to arrive at the presently claimed invention, because such a combination would assure that each lead would not touch another electrode.

In response to the Examiner's arguments, Applicants respectfully point out that, because Sugita et al. teaches away from the use of adhesive tape on the electrode tab, whether or not

the adhesive tape is prior art is immaterial for determining whether an explanation exists as to why one skilled in the art would have applied such an adhesive tape to the teachings of Sugita et al., in direct contrast to these teachings. In other words, the Examiner has not provided any evidence as to why one skilled in the art would apply adhesive tapes to the teachings of Sugita et al., in view of the fact that the Examiner admits that Sugita et al. teaches away from using such tapes. Without providing such evidence of a motivation to combine the references, the combination of Sugita et al. and Narukawa et al. is improper.

Therefore, in view of the arguments presented herein and in the Appeal Brief filed on March 31, 2008, the rejection of independent claims 5, 6, 12, 21, 22, 27, and 28, under 35 U.S.C. §103(a), as being unpatentable over Sugita et al. (U.S. Patent 6,432,578 B1), in view of Narukawa et al. (U.S. Patent 5,508,122), should be reversed.

VIII. Conclusion

In view of the law and facts stated herein, the Appellant respectfully submits that the Examiner has failed to cite a reference or combination of references sufficient to maintain obviousness rejections of the rejected claims and has failed to rebut the arguments in the Response dated March 31, 2008 and in the applicants' previous responses.

For all the foregoing reasons, the Appellant respectfully submits that the cited prior art does not teach or suggest the presently claimed invention. The claims 1-8, 10, 12-13, 14-15, and 24-28 are patentable over the prior art of record, and the Examiner's findings of unpatentability regarding claims 1-8, 10, 12-13, 14-15, and 24-28 should be reversed.

The Commissioner is hereby authorized to charge any additional fees required in connection with the filing of the Appeal Brief to our Deposit Account No. 503333.

Respectfully submitted,

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Date: 8/8/2008

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